



IFW16

RAW SEQUENCE LISTING

DATE: 08/26/2004

PATENT APPLICATION: US/09/890,813A

TIME: 11:31:08

Input Set : A:\BB1430 US PCT Corrected Sequence Listing.txt

Output Set: N:\CRF4\08262004\I890813A.raw

3 <110> APPLICANT: E.I. du Pont de Nemours and Company

5 <120> TITLE OF INVENTION: Aspartate Kinase

7 <130> FILE REFERENCE: BB1430 PCT

9 <140> CURRENT APPLICATION NUMBER: 09/890813A

10 <141> CURRENT FILING DATE: 2001-08-02

12 <150> PRIOR APPLICATION NUMBER: PCT/US00/34396

13 <151> PRIOR FILING DATE: 2000-12-19

15 <150> PRIOR APPLICATION NUMBER: 60/172944

16 <151> PRIOR FILING DATE: 1999-12-21

18 <160> NUMBER OF SEQ ID NOS: 28

20 <170> SOFTWARE: PatentIn version 3.2

22 <210> SEQ ID NO: 1

23 <211> LENGTH: 565

24 <212> TYPE: DNA

25 <213> ORGANISM: Zea mays

27 <220> FEATURE:

28 <221> NAME/KEY: unsure

29 <222> LOCATION: (127)

30 <223> OTHER INFORMATION: n=a,c,g or t

32 <400> SEQUENCE: 1

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34 aatttcactt atcggaatg tggagcaatc gtctctcata ctagaaaaga cgggacgtgt 120

W--> 35 gctgagngaa agtgggggta atgttcagat gatctcgcaa ggagcgtcaa aggttaacat 180

36 gtcgctgata gtccatgata gcgatgcaaa ggcactcgta gaagcccttc atcaggcggt 240

37 ctttgaagac gatgtcctat cacaagtcga agcggagaac ctactcgtgg gctgatcaac 300

38 gtaggctttg ctgggtccag gcgtgttatc tgttatagat tcccactcgc ctccatgaac 360

39 ggcattgggca ttggatcatt gatcatgttt tgcttgaaac aagtatgtct tccaggttct 420

40 cagccaatga ctgcaaaact gtgtttctgt tttagaactg tttgcagaca ccagtgaact 480

41 gcgagcaccg attgtcaaca agatggcaag cctgtgatat aattccaact gtctctaact 540

42 aatatatata ataaacatta tcaat 565

45 <210> SEQ ID NO: 2

46 <211> LENGTH: 97

47 <212> TYPE: PRT

48 <213> ORGANISM: Zea mays

50 <220> FEATURE:

51 <221> NAME/KEY: unsure

52 <222> LOCATION: (42)

53 <223> OTHER INFORMATION: Xaa=any amino acid

55 <400> SEQUENCE: 2

56 His Glu Val Glu Glu Leu Glu Lys Ile Ala Ile Val Arg Leu Leu Gln

57 1 5 10 15

59 Gln Arg Ala Ile Ile Ser Leu Ile Gly Asn Val Glu Gln Ser Ser Leu

60 20 25 30



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--> 62 Ile Leu Glu Lys Thr Gly Arg Val Leu Xaa Glu Ser Gly Val Asn Val
63          35          40          45
65 Gln Met Ile Ser Gln Gly Ala Ser Lys Val Asn Met Ser Leu Ile Val
66          50          55          60
68 His Asp Ser Asp Ala Lys Ala Leu Val Glu Ala Leu His Gln Ala Phe
69 65          70          75          80
71 Phe Glu Asp Asp Val Leu Ser Gln Val Glu Ala Glu Asn Leu Leu Val
72          85          90          95
74 Gly
76 <210> SEQ ID NO: 3
77 <211> LENGTH: 513
78 <212> TYPE: DNA
79 <213> ORGANISM: Zea mays
81 <220> FEATURE:
82 <221> NAME/KEY: unsure
83 <222> LOCATION: (474)
84 <223> OTHER INFORMATION: n=a,c,g or t
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88 ctcggtccgt cgatacctcc ggcgagctct ggacatgttc gaggactggc gtgcttcggt 120
89 acccgaaccg ggctctcgcg tgcaagaggg ttgtcaatgg tggctgccga ctccaccagc 180
90 cgtcggggcca agcaagcggg cggcgggggac ggcgtccttg gggcgccctgt tctcggaggg 240
91 ctcggggatgg agggattggg ggatcagctc agcgtggtga tgaagttcgg ggggtcctcg 300
92 gtgtcgtcgg ccgcgaggat ggctgaggtg gccggcctca tctgacgtt ccccgaggag 360
93 cgccccgtcg tcgttctctc tgccatgggg aaaaccacca acaaccttct ccttgctggg 420
--> 94 agaaaaggca ataagggtgtg gagttatcat gttttctgaa atccgaagaa tggnatatgg 480
95 tcaaaaagcc taaaatatca aagtatccca act 513
97 <210> SEQ ID NO: 4
98 <211> LENGTH: 152
99 <212> TYPE: PRT
100 <213> ORGANISM: Zea mays
102 <400> SEQUENCE: 4
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104 1          5          10          15
106 Ala Pro Arg Arg Leu Val Pro Ser Ile Pro Pro Ala Ser Ser Gly His
107          20          25          30
109 Val Arg Gly Leu Ala Cys Phe Gly Thr Arg Thr Gly Pro Arg Gly Ala
110          35          40          45
112 Arg Gly Leu Ser Met Val Val Ala Asp Ser Thr Ser Arg Arg Ala Lys
113          50          55          60
115 Gln Ala Asp Gly Gly Asp Gly Val Leu Gly Ala Pro Val Leu Gly Gly
116 65          70          75          80
118 Leu Gly Met Glu Gly Leu Gly Asp Gln Leu Ser Val Val Met Lys Phe
119          85          90          95
121 Gly Gly Ser Ser Val Ser Ser Ala Ala Arg Met Ala Glu Val Ala Gly
122          100          105          110
124 Leu Ile Leu Thr Phe Pro Glu Glu Arg Pro Val Val Val Leu Ser Ala
125          115          120          125
127 Met Gly Lys Thr Thr Asn Asn Leu Leu Leu Ala Gly Arg Lys Gly Asn

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130 Lys Val Trp Ser Tyr His Val Phe
131 145      150
133 <210> SEQ ID NO: 5
134 <211> LENGTH: 1985
135 <212> TYPE: DNA
136 <213> ORGANISM: Zea mays
138 <220> FEATURE:
139 <221> NAME/KEY: unsure
140 <222> LOCATION: (532)
141 <223> OTHER INFORMATION: n=a,c,g or t
143 <220> FEATURE:
144 <221> NAME/KEY: unsure
145 <222> LOCATION: (1180)
146 <223> OTHER INFORMATION: n=a,c,g or t
148 <400> SEQUENCE: 5
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150 ccgccgcctc gttccgtcga tacctccggc gagctctgga catgttcgag gactggcggtg 120
151 cttegggtacc cgaaccgggc ctccgcggtgc aagagggttg tcaatgggtg tcgccgactc 180
152 caccagccgt cgggccaaagc aagcggacgg cggggacggc gtccttgggg cgctgttct 240
153 cggagggtctc gggatggagg gattggggga tcagctcagc gtgggtgatga agttcggggg 300
154 gtccctcggtg tcgtcgcccg cgaggatggc tgagggtggc ggccctcatcc tgacgttccc 360
155 cgaggagcgc cccgtcgctc ttctctctgc catggggaaa accaccaaca accttctcct 420
156 tgctggagag aaggcagtag ggtgtggagt tatccatgtt tctgaaatcg aagagtggaa 480
W--> 157 tatgggtcaaa agcctacata tcaagacggt ggatgaactt ggacttccaa gnatctgttaa 540
158 tacaagcctt tatgaactgg agcaactatt gaaaggtatc gctatgatga aagagctgac 600
159 gcctaggacc agtgactacc ttgtttcatt tggagaatgc atgtccacca ggattttttc 660
160 tgcttatttg aacaaaattc gtgtcaaggc acggcagtat gacgcatttg atattggttt 720
161 cattacaact gatgaatttg gtaatgcgga tatcttagaa gcaacctatc ctgctgttgc 780
162 gaagagactt catgggggact ggatacagga tccagcgata cctgttggtta ctgggttcct 840
163 tgggaagggc tggaaatctg gtgctgtaac tactttagggc cgagggtgga gtgacttgac 900
164 tgctacaacc atttggtaaag ccttgggact gagagaaatt caggtatgga aagatgttga 960
165 tggtgtactt acttgtgatc caaatatcta cccacatgca aagactgttc catacttaac 1020
166 atttgaagag gccacagaac ttgcttattt tgggtgctcag gttttgcatc cacaatcgat 1080
167 gagacctgct agagaagggtg atattccagt taggggttaag aattcataca accctaaagc 1140
W--> 168 tccaggcacc cttattacca gacaaagaga catggataan ggtctggttg tactaactag 1200
169 catagtgtc aagtcaaatg tcaactatgtt ggacattgtg agcactcgga tgettgggtca 1260
170 gtatggtttt ctggcaaggg tatcagggtat ttgctatatt gaagatctat gtatatctgt 1320
171 ggattgtgtt gctaccagtg aagttagtgt ttctgtgtca cttgatccat caaagatctg 1380
172 gaggtagggaa ctgatacagc aggcgaagtga acttgaccat gtagttgaag agcttgagaa 1440
173 aatagcaatt gttcgtctac ttcagcagag ggcgataatt tcacttatcg gaaatgtgga 1500
174 gcaatcgtct ctgatactag aaaagacggg acgtgtgctg aggaaaagtg gggttaatgt 1560
175 tcagatgatc tcgcaaggag cgtcaaagggt taacatgtcg ctgatagtcc atgatagcga 1620
176 tgcaaaggca ctcgtagaag cccttcatca ggcgttcttt gaagacgatg tcctatcaca 1680
177 agtcgaagcg gagaacctac tcgtgggctg atcaacgtag gctttgctgg gtccaggcgt 1740
178 gttatctgtt atagattccc actcgccctc atgaacggca tgggcattgg atcattgatc 1800
179 atgttttctg tgaaacaagt atgtcttcca ggttctcagc caatgactgc aaaactgtgt 1860
180 ttctgtttta gaactgtttg cagacaccag tgagctgcga gcaccgattg tcaacaagat 1920
181 ggcaagcctg tgatataatt ccaactgtct ctaatcaata tatataataa acattatcaa 1980

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182 tatct
184 <210> SEQ ID NO: 6
185 <211> LENGTH: 560
186 <212> TYPE: PRT
187 <213> ORGANISM: Zea mays
189 <220> FEATURE:
190 <221> NAME/KEY: UNSURE
191 <222> LOCATION: (168)
192 <223> OTHER INFORMATION: Xaa=any amino acid
194 <220> FEATURE:
195 <221> NAME/KEY: UNSURE
196 <222> LOCATION: (384)
197 <223> OTHER INFORMATION: Xaa=any amino acid
199 <400> SEQUENCE: 6
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201 1 5 10 15
203 Ser Ile Pro Pro Ala Ser Ser Gly His Val Arg Gly Leu Ala Cys Phe
204 20 25 30
206 Gly Thr Arg Thr Gly Pro Arg Gly Ala Arg Gly Leu Ser Met Val Val
207 35 40 45
209 Ala Asp Ser Thr Ser Arg Arg Ala Lys Gln Ala Asp Gly Gly Asp Gly
210 50 55 60
212 Val Leu Gly Ala Pro Val Leu Gly Gly Leu Gly Met Glu Gly Leu Gly
213 65 70 75 80
215 Asp Gln Leu Ser Val Val Met Lys Phe Gly Gly Ser Ser Val Ser Ser
216 85 90 95
218 Ala Ala Arg Met Ala Glu Val Ala Gly Leu Ile Leu Thr Phe Pro Glu
219 100 105 110
221 Glu Arg Pro Val Val Val Leu Ser Ala Met Gly Lys Thr Thr Asn Asn
222 115 120 125
224 Leu Leu Leu Ala Gly Glu Lys Ala Val Gly Cys Gly Val Ile His Val
225 130 135 140
227 Ser Glu Ile Glu Glu Trp Asn Met Val Lys Ser Leu His Ile Lys Thr
228 145 150 155 160
W--> 230 Val Asp Glu Leu Gly Leu Pro Xaa Ile Cys Asn Thr Ser Leu Tyr Glu
231 165 170 175
233 Leu Glu Gln Leu Leu Lys Gly Ile Ala Met Met Lys Glu Leu Thr Pro
234 180 185 190
236 Arg Thr Ser Asp Tyr Leu Val Ser Phe Gly Glu Cys Met Ser Thr Arg
237 195 200 205
239 Ile Phe Ser Ala Tyr Leu Asn Lys Ile Arg Val Lys Ala Arg Gln Tyr
240 210 215 220
242 Asp Ala Phe Asp Ile Gly Phe Ile Thr Thr Asp Glu Phe Gly Asn Ala
243 225 230 235 240
245 Asp Ile Leu Glu Ala Thr Tyr Pro Ala Val Ala Lys Arg Leu His Gly
246 245 250 255
248 Asp Trp Ile Gln Asp Pro Ala Ile Pro Val Val Thr Gly Phe Leu Gly
249 260 265 270
251 Lys Gly Trp Lys Ser Gly Ala Val Thr Thr Leu Gly Arg Gly Gly Ser

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1985

RAW SEQUENCE LISTING

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Input Set : A:\BB1430 US PCT Corrected Sequence Listing.txt

Output Set: N:\CRF4\08262004\I890813A.raw

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252          275          280          285
254 Asp Leu Thr Ala Thr Thr Ile Gly Lys Ala Leu Gly Leu Arg Glu Ile
255          290          295          300
257 Gln Val Trp Lys Asp Val Asp Gly Val Leu Thr Cys Asp Pro Asn Ile
258 305          310          315          320
260 Tyr Pro His Ala Lys Thr Val Pro Tyr Leu Thr Phe Glu Glu Ala Thr
261          325          330          335
263 Glu Leu Ala Tyr Phe Gly Ala Gln Val Leu His Pro Gln Ser Met Arg
264          340          345          350
266 Pro Ala Arg Glu Gly Asp Ile Pro Val Arg Val Lys Asn Ser Tyr Asn
267          355          360          365
-> 269 Pro Lys Ala Pro Gly Thr Leu Ile Thr Arg Gln Arg Asp Met Asp Xaa
270          370          375          380
272 Gly Leu Val Val Leu Thr Ser Ile Val Leu Lys Ser Asn Val Thr Met
273 385          390          395          400
275 Leu Asp Ile Val Ser Thr Arg Met Leu Gly Gln Tyr Gly Phe Leu Ala
276          405          410          415
278 Arg Val Ser Gly Ile Cys Tyr Ile Glu Asp Leu Cys Ile Ser Val Asp
279          420          425          430
281 Cys Val Ala Thr Ser Glu Val Ser Val Ser Val Ser Leu Asp Pro Ser
282          435          440          445
284 Lys Ile Trp Ser Arg Glu Leu Ile Gln Gln Ala Ser Glu Leu Asp His
285          450          455          460
287 Val Val Glu Glu Leu Glu Lys Ile Ala Ile Val Arg Leu Leu Gln Gln
288 465          470          475          480
290 Arg Ala Ile Ile Ser Leu Ile Gly Asn Val Glu Gln Ser Ser Leu Ile
291          485          490          495
293 Leu Glu Lys Thr Gly Arg Val Leu Arg Lys Ser Gly Val Asn Val Gln
294          500          505          510
296 Met Ile Ser Gln Gly Ala Ser Lys Val Asn Met Ser Leu Ile Val His
297          515          520          525
299 Asp Ser Asp Ala Lys Ala Leu Val Glu Ala Leu His Gln Ala Phe Phe
300          530          535          540
302 Glu Asp Asp Val Leu Ser Gln Val Glu Ala Glu Asn Leu Leu Val Gly
303 545          550          555          560
305 <210> SEQ ID NO: 7
306 <211> LENGTH: 1953
307 <212> TYPE: DNA
308 <213> ORGANISM: Zea mays
310 <400> SEQUENCE: 7
311 gagcaggagg actcagaaat ggcaatccca gtgcgatcgg ctgccgcgcc ccgccgcctc 60
312 gttccgtcga tacctccggc gagctctgga catgttcgag gactggcggtg cttcggtacc 120
313 cgaaccgggc ctgcggtgc aagagggttg tcaatggtgg tcgccgactc caccagccgt 180
314 cgggccaagc aagcggacgg cggggacggc gtccttgggg cgctgttct cggagggtc 240
315 gggatggagg gattggggga tcagctcagc gtggtgatga agttcggggg gtctcggtg 300
316 tcgtcgccg cgaggatggc tgaggtggcc ggcctcatcc tgacgttccc cgaggagcgc 360
317 cccgtcgtcg ttctctctgc catggggaaa accaccaaca accttctcct tgctggagag 420
318 aaggcagtag ggtgtggagt tatccatgtt tctgaaatcg aagagtggaa tatggtcaaa 480
319 agcctacata tcaagacggt ggatgaactt ggacttccaa gatctgtaat acaagacatg 540

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/890,813A

DATE: 08/26/2004
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Input Set : A:\BB1430 US PCT Corrected Sequence Listing.txt
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 127
Seq#:2; Xaa Pos. 42
Seq#:3; N Pos. 474
Seq#:5; N Pos. 532, 1180
Seq#:6; Xaa Pos. 168, 384
Seq#:9; N Pos. 366, 394, 406, 414, 425, 431, 455
Seq#:13; N Pos. 289, 329, 393, 435, 551, 582, 583, 616, 626, 632, 637, 640
Seq#:14; Xaa Pos. 110, 131, 145

VERIFICATION SUMMARY

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Input Set : A:\BB1430 US PCT Corrected Sequence Listing.txt

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L:35 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:120
L:62 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:32
L:94 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:420
L:157 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:480
L:168 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:1140
L:230 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:160
L:269 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:368
L:503 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:360
L:504 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:420
L:682 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:240
L:683 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:300
L:684 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:360
L:685 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:420
L:687 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:540
L:688 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:600
L:729 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:96
L:735 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:128
L:738 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:144